

REMARKS

Reconsideration of the application in light of the above amendments and following remarks is respectfully requested.

I. Status of the Claims

Claims 1-18 are pending in the application.

Claims 1-18 stand rejected.

Claims 1-18 have been amended. The amendments are idiomatic in nature and do not change the scope of the claims. Further, the amendments do not add new matter.

II. Rejections Under 35 U.S.C. § 103

Claims 1-18 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,931,863 to Chen et al. ("Chen") in view of U.S. Publication No. 2003/0159808 to Hoang et al. ("Hoang"). The Examiner states that Chen discloses a Stirling cycle refrigerator that includes heat pipes using capillary material to transfer the cooling liquid, but admits that Chen does not disclose a loop heat exchanger heat pipe with a porous member, with vapor conduits outside of the porous member between the porous member and the wall of the annular conduit. The Examiner relies on Hoang as demonstrating that the feature lacking in Chen is old and well known. The Examiner contends that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the Stirling cooler of Chen, in view of Hoang, to use a capillary pump heat transfer system. Applicants respectfully traverse the rejection.

Claim 1 recites a refrigeration system with “at least one capillary pump mounted in the refrigerating chamber.” Chen and Hoang do not disclose this feature, either alone or in combination. Chen describes a Stirling refrigerator with drain evaporation heat pipes that include a wick which utilize the capillary effect to circulate the refrigerant. The drain evaporation heat pipes are part of the heat-rejecting heat exchanger. Chen does not describe a capillary pump mounted in a refrigerating chamber. Hoang describes an evaporator capillary pump, but does not disclose its use in a refrigerating chamber. Thus, there is no suggestion or motivation in either reference, or their combination, to include a capillary pump in the refrigerating chamber as recited in claim 1. Accordingly, claim 1 is patentable over the cited references. Claims 2-18 depend from claim 1 and are patentable for at least the same reasons as claim 1.

Further, claim 7 includes additional features which are neither disclosed nor suggested by the cited combination. Claim 7 recites that “the second thermal energy transfer device presents a shell of annular shape, with an external wall receiving the inlet and with an internal wall associated with the outlet, the porous means having an annular shape and being lodged inside the shell.” These features are not shown in either of the references. The evaporator capillary pump of Hoang does not have an annular shape or an internal wall. Chen does not include a second thermal energy transfer device with a porous means. Thus, claim 7 is further patentable over the combination of Chen and Hoang.

Reconsideration and withdrawal of the rejection under 35 U.S.C. § 103(a) is respectfully requested.

CONCLUSION

Each and every point raised in the Office Action, dated April 13, 2007 has been addressed on the basis of the above amendments and remarks. In view of the foregoing it is believed that pending claims 1-18 are in condition for allowance and it is respectfully requested that the pending claims be allowed and the case passed to issue.

If there are any other issues remaining which the Examiner believes could be resolved through a Supplemental Response or an Examiner's Amendment, the Examiner is respectfully requested to contact the undersigned at the telephone number indicated below.

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Respectfully submitted,

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